Patent claims

1. Use of water-insoluble linear poly-alpha-1,4-D-glucans as resistant starch (RS).

2. Use according to claim 1 characterised in that the water-insoluble linear poly-alpha-1,4-D-glucans were obtained by the reaction of an aqueous saccharose solution with an enzyme with the enzymatic activity of an amylosucrase.

3. Use according to claim 2 characterised in that the reaction of the aqueous saccharose solution is carried out with an enzyme with the enzymatic activity of an amylosucrase *in vitro*.

4. Use according to claim 2 characterised in that the reaction of the aqueous saccharose solution is carried out with an enzyme with the enzymatic activity of an amylosucrase *in planta*.

5. Use according to one of the claims 1 to 4 characterised in that the water-insoluble linear poly-alpha-1,4-D-glucans exhibit an RS content determined by the method of Englyst et al. of more than 70 wt.%.

6. Use according to one of claims 1 to 5 characterised in that the water-insoluble linear poly-alpha-1,4-D-glucans exhibit a DSC peak temperature of between 95 °C and 125 °C.

7. Use according to one of the claims 1 to 6 characterised in that the water-insoluble linear poly-alpha-1,4-D-glucans have a mean molecular weight of 1×10^2 g/mol to 10^5 g/mol.

8. Use according to one of the claims 1 to 6 characterised in that the water-insoluble linear poly-alpha-1,4-D-glucans have a mean molecular weight of 1×10^3 g/mol to 3×10^4 g/mol.

9. Use according to one of the claims 1 to 6 characterised in that the water-insoluble linear poly-alpha-1,4-D-glucans have a mean molecular weight of 2 x 10^3 g/mol to 1.2 x 10^4 g/mol.

10. Use according to one of the claims 1 to 9 characterised in that the water-insoluble linear poly-alpha-1,4-D-glucans were not retrograded.